

**REMARKS**

Reconsideration of the application, as presently amended, is respectfully requested.

Claims 1-25 are pending. Claims 1, 6-7, 12, 15-16, and 19-24 have been amended. No claims have been canceled or added.

Claims 1-3 and 6-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Discrete-Time Processing of Speech Signals by Deller et al. ("Deller") in view of U.S. Patent No. 6,122,608 to McCree ("McCree") and further in view of U.S. Patent No. 5,778,335 to Ubale ("Ubale"). Deller has been cited by the Office Action as teaching "...all of the features of independent claims 1, 12, 19, and 22 except for multiple codebooks or a selection procedure for selecting one of a multiple of codebooks for encoding/decoding a signal block" and "...multiple excitation codebooks." McCree has been cited by the Office Action as teaching "...implementation of multiple sets of fixed algebraic codebooks. . .selecting a codebook based on a deterministic selection procedure that is independent of the signal type and [performing] encoding and decoding of a particular frame . . .[and] use of multiple codebook pairs [that] results in a significant performance improvement over single codebooks. . . ." Ubale has been cited as disclosing "...a method and apparatus for efficient multiband CELP wide band speech and music coding and decoding."

The Office Action asserts that it would have been obvious "...to modify the CELP system of Deller . . .to implement multiple codebook pairs and selection of a codebook based on a deterministic selection procedure as suggested by McCree. . ." and also that it would have been

obvious to "...modify the CELP encoding teachings of [Deller] to implement multiple excitation codebooks as taught by Ubale. . . ."

Deller appears to describe CELP coding using a single excitation codebook. McCree appears to disclose use of multiple codebooks in which every possible predictor/codebook set combination is searched for the predictor/codebooks set that minimizes squared errors. Ubale appears to disclose use of multiple adaptive codebooks.

Applicant respectfully submits that Deller in view of McCree in further view of Ubale ("the cited combination") fails to render obvious each of independent claims 1, 12, 19, and 22. In particular, the cited combination fails to render obvious at least the feature of independent claim 1 of selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications. The cited combination similarly fails to render obvious at least the feature of independent claim 12 of an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications. In similar fashion, the cited combination fails to render obvious at least the feature of independent claim 19 of selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications. Similarly, the cited combination fails to render obvious at the least the feature of independent claim 22 of an excitation codebook selector for selecting, for each signal block, a corresponding excitation codebook identification from a pre-determined signal block independent sequence of codebook identifications.

In contrast to the present invention as claimed in amended claims 1, 12, 19, and 22, respectively, Deller describes CELP coding using a signal excitation codebook. Applicant respectfully submits that Deller does not teach or suggest the distinguishing features of independent claims 1, 12, 19, and 22, respectively, noted above.

In McCree, multiple codebooks are used; however, every possible predictor/codebooks set combination is searched for the predictor/codebooks set that minimizes squared errors. Thus, the selection process of McCree is signal block dependent. See, e.g., McCree, col. 3, lns. 55-60. Further, in McCree, a bit is sent from an encoder to indicate which predictor/codebooks set was selected. See, e.g., McCree col. 4, lns. 45-47. The bit is used by a decoder to select the appropriate codebook set. See, e.g., McCree, col. 4, lns. 58-60.

In Ubale, if several codebooks are used, a pitch value for each adaptive codebook is transmitted. Thus, if multiple codebooks are used, no selection among the codebooks is performed. Instead, one entry from each codebook is transmitted. See, e.g., Ubale, col. 6, ln. 66- col. 7, ln. 1.

For at least the reasons set forth above, Applicant respectfully submits that the cited combination fails to render obvious any of independent claims 1, 12, 19, or 22. Applicant respectfully submits that independent claims 1, 12, 19, and 22 are in condition for allowance and respectfully requests that the rejection thereof withdrawn.

Claims 2-3, 6-11, 13-18, 20-21, and 23-24 dependent from and further limit independent claims 1, 12, 19, and 22, respectively. Applicant respectfully submits that, for at least reasons set forth above with respect independent claims 1, 12, 19, and 22, dependent claims 2-3, 6-11, 13-18,

20-21, and 23-24 distinguish over the cited combination and are in condition for allowance.

Applicant respectfully requests that the rejection thereof be withdrawn as well.

Claims 4-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the cited combination and further in view of U.S. Patent No. 6,055,496 to Heidari et al. ("Heidari").

Heidari has been cited as teaching a "... CELP speech coder to improve overall system capacity. ... [that] implements channel coding that provides error protection. ...". Applicant respectfully submits that, even if it is assumed, for the sake of argument, that Heidari teaches everything asserted in the Office Action, Heidari fails to supply the deficiencies noted above of the cited combination. Applicant respectfully submits that, for at least the reasons set forth above with respect to independent claim 1, dependent claims 4-5 distinguish over the cited combination and further in view Heidari. Applicant respectfully submits that dependent claims 4-5 are in condition for allowance and requests that the rejection thereof be withdrawn.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,991,717 to Minde et al. ("Minde") in view of McCree and further in view Ubale. Minde has been cited as teaching all of the features of independent claim 25 except for "...multiple codebooks or that each codebook has different zero pulse positions. ...". and "...multiple excitation codebooks." McCree has been cited as teaching "...use of multiple codebook pairs [that] results in a significant performance improvement over single codebooks ...". Ubale has been cited as disclosing "...a method and apparatus for efficient multi-band CELP wide band speech and music coding and decoding ...[and] use of more than one excitation codebook ...". The Office Action therefore asserts that it would have been obvious to "...modify the CELP

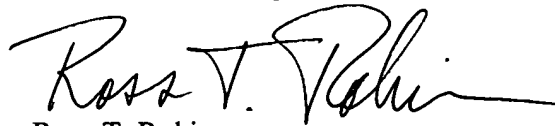
encoding techniques of Minde to implement multiple excitation codebooks as taught by Ubale. . .

Minde appears to disclose a codebook with different allowed pulse positions and zero pulse between the allowed pulse positions. Applicant respectfully submits that Minde fails to teach, suggest, or render obvious independent claim 25. In particular, Minde does not teach, suggest, or render obvious at least the features of claim 25 that each excitation codebook has separate tracks with different predetermined allowed pulse positions and excluded pulse positions and each selectable excitation codebook has different excluded pulse positions. Neither McCree nor Ubale, singularly or in combination, supplies these deficiencies of Minde. Applicant therefore respectfully submits that independent claim 25 distinguishes over Minde in view of McCree and further in view of Ubale and is in condition for allowance. Applicant respectfully requests that the rejection of independent claim 25 be withdrawn.

In view of the above, it is believed that this application is in condition for allowance, and such a Notice is respectfully requested.

Respectfully submitted,

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A Professional Corporation

A handwritten signature in black ink, appearing to read "Ross T. Robinson", with a stylized flourish at the end.

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